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(71)Applicant : FURUKAWA ELECTRIC CO
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(54) OPTICAL COMMUNICATION SYSTEM

(57) Abstract:

PROBLEM TO BE SOLVED: To provide an optical communication system having high reliability with the lessened influence by the nonlinear characteristics of optical fibers.

SOLUTION: Plural optical communication lines 1a1 to 1an are interposed between a transmitter 2 and a receiver 6 of light. These respective optical communication lines 1a1 to 1an are formed by successively connecting optical amplifiers 5a1 to 5an consisting of ER-added fiber type optical amplifiers, the first optical fibers 3a1 to 3an and the second optical fibers 4a1 to 4an. The first optical fibers 3a1 to 3an are formed as the optical fibers having positive dispersion in a wavelength $1.55\mu\text{m}$ band and the second optical fibers 4a1 to 4an are formed as the optical fibers having negative dispersion at the same wavelength band. The total dispersion quantity of the respective corresponding first optical fibers 3a1 to 3an and the second optical fibers 4a1 to 4an is made approximately zero and the nonlinear characteristics of the first optical fibers 3a1 to 3an are made smaller than the nonlinear characteristics of the corresponding second optical fibers 4a1 to 4an.

